AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of fabricating a cleaved facet of a laser device, said device having a substrate with a thickness of between 350 μm and 400 μm formed of c-plane sapphire and at least one GaN-based layer formed upon a first surface of the substrate, said method including the following steps:

cutting linear grooves into a second surface of the substrate, said grooves being in alignment with vertical planes of said substrate, the vertical planes being selected from at least one of m-planes (1100) or a-planes (1120); and

cleaving said substrate and said at least one GaN-based layer along said vertical planes;

wherein said cutting is effected by a laser beam from an external laser source,

wherein the cleaved facet has a surface roughness of 19-26 nm.

2-4. (Canceled)

5. (Previously Presented) The method according to claim 1, wherein the vertical planes are the a-planes (1120).

6-7. (Canceled)

8. (Previously Presented) The method according to claim 1, wherein the grooves are cut to a depth of from about 40 μm to about 100 μm.

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9. (Previously Presented) The method according to claim 8, wherein the grooves are cut to a depth of from about 50 μm to about 80 μm.

10. (Previously Presented) The method according to claim 8, wherein the depth of said grooves is controlled by process parameters including an intensity of the laser beam, a speed at which the laser beam is scanned over the grooves and a number of times the laser beam is scanned over said grooves.

11. (Previously Presented) The method according to claim 10, wherein the laser beam was focused on the second surface of the substrate within a radius of from about 20 μm to about 30 μm at $1/e^2$ density.

12. (Previously Presented) The method according to claim 10, wherein an average power of the laser beam is about 1.4W.

13. (Previously Presented) The method according to claim 10, wherein a repetition rate of the laser beam is from about 2 kHz to about 5 kHz.

14. (Previously Presented) The method according to claim 10, wherein a pulse width of the laser beam is from about 5 ns to about 30 ns.

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15. (Previously Presented) The method according to claim 10, wherein the laser beam is scanned over the second surface of the substrate from 2 to about 12 times at a velocity of about 1 mm/sec.

16. (Previously Presented) The method according to claim 1, wherein the at least one GaN-based layer includes a plurality of GaN-based layers.

17. (Previously Presented) The method according to claim 16, wherein the plurality of GaN-based layers include GaN/InGaN/AlGaN layers.

18. (Previously Presented) The method according to claim 16, wherein the GaN-based layers are formed using epitaxial lateral overgrowth (ELOG) techniques.

19. (Withdrawn) A laser device having cleaved facets formed according to the method of claim 1.

20. (New) The method according to claim 1, wherein the cleaved facet has an average r.m.s. roughness r_{av} of 22 nm.

21. (New) A method of fabricating a cleaved facet of a laser device, said device having a substrate with a thickness of between 350 μm and 400 μm formed of c-plane sapphire and at

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least one GaN-based layer formed upon a first surface of the substrate, said method including the following steps:

cutting linear grooves into a second surface of the substrate, said grooves being in alignment with vertical planes of said substrate, the vertical planes being selected from at least one of m-planes (1100) or a-planes (1120); and

cleaving said substrate and said at least one GaN-based layer along said vertical planes;

wherein said cutting is effected by a laser beam from an external laser source,

wherein the cleaved facet has a surface roughness of 16-26 nm for a laser structure on epitaxial lateral overgrowth (ELOG) and sapphire.

22. (New) The method according to claim 21, wherein the cleaved facet has an average r.m.s. roughness r_{av} of 21 nm.

23. (New) A method of fabricating a cleaved facet of a laser device, said device having a substrate with a thickness of between 350 μm and 400 μm formed of c-plane sapphire and at least one GaN-based layer formed upon a first surface of the substrate, said method including the following steps:

cutting linear grooves into a second surface of the substrate, said grooves being in alignment with vertical planes of said substrate, the vertical planes being selected from at least one of m-planes (1100) or a-planes (1120); and

cleaving said substrate and said at least one GaN-based layer along said vertical planes;

wherein said cutting is effected by a laser beam from an external laser source,

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wherein the cleaved facet has a surface roughness of 26 nm or less.

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